



B.TECH. DEGREE EXAMINATIONS: MAY 2015

(Regulation 2009)

Sixth Semester

BIOTECHNOLOGY

BTY213: Neurobiology and Cognitive Sciences

Time: Three Hours

Maximum Marks: 100

Answer all the Questions:-

PART A (10 x 1 = 10 Marks)

- It is found in all levels of spinal cord_____.
 - Spinal trigeminal nucleus
 - Cunocerebellar tract
 - Substantia gelatinosa
 - Diencephalon
- Which one of the following is necessary to create the blood-brain barrier?
 - Neurotoxins
 - Astrocytes
 - Blood
 - Cerebrospinal fluid
- In rate coding, as intensity of a stimulus increases, the rate of action potential _____.
 - increases
 - remains the same
 - decreases
 - increases and then decreases
- Which equation describes the potential across a permeable membrane?
 - Nernst equation
 - Katz Equation
 - Goldman-Hodgkin and Katz equation
 - Goldman-Nernst
- Acetylcholine synthesis is catalysed by _____.
 - Choline transferase
 - Choline acetyl tranferase
 - Choline acetyl catalase
 - Choline catalase
- The type of neurotransmitter responsible for stimulating the brain is_____.
 - Serotonin
 - Glycine
 - Gamma carboxy glutamate
 - Dopamine
- The action potential originating in CNS reache the _____ which transmits it to axon.
 - neuromuscular junction
 - alpha motor neuron
 - sarcoplasmic reticulum
 - sensory neuron
- The cells of the taste bud that are embedded in papillae is_____.
 - neuroepithelial
 - glial cells
 - taste papillae
 - fungiforms

23. a) Give a detailed account on the hypothalamic control of neuronal function.

(OR)

b) What is a neurotransmitter? Explain the mechanism of any one neurotransmitter.

24. a) Discuss the neuronal mechanism of touch and pain based sensations.

(OR)

b) Describe the mechanism of skeletal muscle contraction with neat diagram

25. a) Write short note on.

(i) Regulation of sleep

(ii) Parkinson's disease

(OR)

b) Write short note on.

(i) Schizophrenia

(ii) Anxiety and mood disorders
